SIROCCO OBSERVATIONS IN THE SOUTHWESTERN PART OF PALESTINE.

By WALTER GEORGII.

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The sirocco winds of southwest Palestine find their origin in the desert of Arabia. They are most frequent during the spring and autumn, especially during April and May and September and October. The period during which this very hot wind blows is from one to three days, although it sometimes lasts longer. The normal winds of this region are such that the land and sea breeze are very much in evidence. But when the sirocco sets in from the east or southeast, it is such as to completely neutralize the effect of the sea breeze. The meteorological conditions attendant upon the sirocco were carefully noted from the 12th to the 18th of May, 1916. Table I gives data on temperatures and humidity, for the extreme unpleasantness of the wind is due to the extremely low relative humidity and the sudden rise at the conclusion of the wind.

TABLE I.

Date.		Shelter temperature.			Psychrometer.						Relative humidity.			Extreme temperatures.	
					Dry bulb.			Wet bulb.							
		7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	7 a.m.	2 p.m.	9 p.m.	Max.	Min.
		° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.	° C.
May	9	16.2	26.4	16.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	27.5	10.0
	10	21.8	26.8	17.2	.....	.....	.....	.....	.....	.....	.....	.....	.....	28.0	10.2
	11	17.4	29.6	18.3	.....	.....	.....	.....	.....	.....	.....	.....	.....	30.3	13.2
	12	19.6	33.6	22.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	34.5	12.0
	13	22.3	35.4	25.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	37.8	15.2
	14	29.4	39.5	26.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	39.6	21.2
	15	25.2	39.5	28.6	24.6	39.0	26.0	13.0	20.5	14.8	18	12	23	40.1	19.2
	16	34.3	40.3	30.0	34.2	41.2	29.0	16.9	17.9	16.2	9	2	20	41.6	23.1
	17	35.5	42.0	33.7	35.8	41.0	33.1	16.2	19.0	16.1	2	5	7	43.1	25.0
	18	36.1	37.6	22.4	36.2	38.0	22.7	17.0	22.2	21.2	3	20	88	42.1	25.6
	19	22.7	25.0	18.0	20.8	25.2	18.1	19.1	20.2	16.5	85	63	85	28.8	20.0
	20	18.6	24.9	18.2	18.4	24.4	18.2	16.9	17.8	15.2	86	52	72	26.4	16.5

It will be seen from this table that during the early part of the month of May the temperatures were quite normal, the maximum for the day lay between 26° and 29° C., while the daily minimum lay between 10° and 15° C. On the 11th, however, the maximum reached 30.3° C., which may be regarded as the first symptom of the approach of the sirocco, although in all other respects the day was normal. The sudden rise of temperature during the morning of the 12th, was followed by temperatures which daily mounted higher and higher, until the 17th, the high point of the sirocco, the temperature remained above 30° C. from 5 a. m. until 11 p. m. It will also be noted that the relative humidity during the height of the wind was very low, but that during the 18th it mounted very rapidly. The effect of such low humidity was so marked that a canteen placed for a short time in the wind, in spite of the high temperature, would cool the water within.

Observations of the surface wind and of the wind aloft showed surface wind mainly from the southeast of about 6 meters per second in the middle of the day; aloft, with a southeast wind, velocities as high as 19 meters per second were obtained. The cloudiness during the period is more marked than normal, and consists of higher clouds chiefly, such as cirrus, cirro-stratus, cirro-cumulus, and alto-stratus.

The effect of the sirocco on the human body is especially marked, although the resultant sickness generally comes at the end of the wind. The sudden change of humidity combined with the high temperatures serves to dry the skin rapidly and induce nerve and heart troubles. Recovery from these ills is generally slow.—*C. L. M.*

A HOT "HURRICANE"; THE LEVANTO OF THE CANARIES.

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Study of the wind systems of the world includes reference to a variety of local winds consequent on the cyclonic circulation. The foehn, chinook, sirocco, mistral, bora are all well known from their important human effects. They are described briefly in most textbooks of physical geography while fuller accounts may be found in such meteorological texts as Davis's Elementary Meteorology.

Among the less known winds belonging to this class is the levanto. The levanto, which blows over the Canary Islands as a hot southeasterly wind, may be considered a form of the sirocco. When a well marked cyclonic depression passes to the north of the islands the indraft brings hot, sand-laden air from the Sahara. Occasionally this wind arrives with hurricane force and then is responsible for serious destruction to vegetation and crops. The *African World* (Sept. 20, 1919) describes a recent occurrence of the levanto.

It is to be feared that the tomato and banana industries of the islands have suffered considerably from the levanto or southeast wind which swept down upon the Orotava Valley (north of the peak of Tenerife) in a hurricane of hot air charged with Saharan sand, and more than a suspicion of volcanic gases from the peak. It began to come in hot puffs like a gust from a furnace on the evening of August 22. During the night it attained to the force of a hurricane, and raged all next day and the following night, bursting open shutters and doors, filling the houses with layers of dust, and nearly choking their inmates. Trees came crashing onto roofs, and all vegetation visibly wilted before the scorching blast. Thousands of young tomato plants were killed, the bananas were blackened and rendered unsalable, and the ripe and ripening grapes of the higher slopes simply shriveled and withered. Forest fires broke out spontaneously in several places, adding dense clouds of smoke to the fog of dust.

The intense heat of the wind was doubtless due in part to foehn influence, that is to compression and consequent heating during the rapid descent into the Orotava Valley.

THE BLOWING OF THE WIND.

By ROGER ASCHAN.

A distinguished instructive writer of the sixteenth century, Roger Aschan, was not an aeronautical scientist. The following extract is from *Toxophilus*, a dialogue on the art of archery, published in 1544, and contains references of aerodynamical and meteorological interest. It is interesting to note that the events described occurred on a bright, sunny day, and that the country was comparatively flat.—*Douglas Shaw.*

To see the wind with a man's eyes, it is impossible, the nature of it is so fine and subtle; yet this experience of the wind had I once myself, and that was in the great snow which fell four years ago. I rode in the highway betwixt Topcliff-upon-Swale and Boroughbridge, the way being somewhat trodden afore by wayfaring men; the fields on both sides were plain, and lay almost yard-deep with snow; the night before had been a little frost, so that the snow was hard and crusted above; that morning the sun shone bright and clear, the wind was whistling aloft, and sharp, according to the time of the year; the snow in the highway lay loose and trodden with horse feet, so as the wind blew it took the loose snow with it,